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Companywide	Program Requirements Document	For Additional Info: http://EDMS	Effective Date: 11/11/02
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Manual: 13A-Quality and Requirements Management Program Documents

Change Number: 93944

1. PURPOSE

This Program Requirements Document (PRD) identifies requirements and responsibilities for specifying, planning, performing, and reporting *inspections* (see def.) used to *verify* (see def.) the *acceptance* (see def.) of *items* (see def.) or activities. See Appendix A for requirements basis.

2. APPLICABILITY

This PRD applies to company organizations involved with the evaluation of conformance to specified requirements and acceptability of items and activities by inspection.

3. RESPONSIBILITIES

3.1 Design Organization

The design organization is responsible for the identification of and selective application of inspection requirements and appropriate *acceptance criteria* (see def.) in implementing *documents* (see def.) and specifications. They are to interface with Quality Assurance; Site Area Directors (SADs); facility managers/custodians (FM/Cs), and *system engineers* (see def.).

3.2 Cognizant Quality Engineer

Cognizant Quality Engineers (CQEs; see def.) are responsible for the preparation and/or review of working documents that establish inspection requirements. CQEs shall interface with the design organization, SADs, FM/Cs, and system engineers.

3.3 Inspector

The *inspector* (see def.) is responsible for performing, documenting, and reporting specified independent inspections.

3.4 Line Organization

The *line organization* (see def.) is responsible for ensuring that the appropriate level of inspection is performed as specified. It will also interface with the design organization, QA, SADs, FM/Cs, and system engineers.

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4. REQUIREMENTS

4.1 Companywide Applications

The requirements identified in this subsection (4.1) apply to the entire company unless exempted by INT-17, QA PRD Introduction, Subsection 2.

4.1.1 Basic

4.1.1.1 Inspections required to verify conformance of an item or activity to specified requirements or the continued acceptability of items in *service* (see def.) shall be planned and executed. [NQA-1-1997, Requirement 10, 100 1s]

4.1.1.2 *Characteristics* (see def.) subject to inspection and inspection methods shall be specified. [NQA-1-1997, Requirement 10, 100 2s]

4.1.1.3 Inspection results shall be documented. [NQA-1-1997, Requirement 10, 100 3s]

4.1.1.4 Inspection for acceptance shall be performed by qualified persons other than those who performed or directly supervised the work being inspected. [NQA-1-1997, Requirement 10, 100 4s]

NOTE: Data (see def.) recorders, equipment operators, or other inspection team members who are supervised by a qualified inspector shall not be required to be qualified inspectors. [DOE/RW-0333P 10.2.2B]

4.1.2 Inspection Requirements

4.1.2.1 Inspection requirements and acceptance criteria shall include specified requirements contained in the applicable design documents or other pertinent technical documents approved by the responsible design organization. [NQA-1-1997, Requirement 10, 200]

4.1.3 Inspection Hold Points

4.1.3.1 If mandatory inspection *hold points* (see def.) are required beyond which work shall not proceed without specific consent of the designated representative, the specific hold points shall be indicated in appropriate documents. [NQA-1-1997, Requirement 10, 300 1s; DOE/RW-0333P 10.2.3.A]

4.1.3.2 Consent to waive specified hold points shall be recorded prior to continuation of work beyond the designated hold point. [NQA-1-1997, Requirement 10, 300 2s; DOE/RW-0333P 10.2.3.B]

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4.1.4 Planning

4.1.4.1 Inspection planning shall be performed, documented, and include the following [DOE/RW-0333P 10.2.1]:

- A. Identification of each work operation where inspection is necessary to ensure quality and implementing documents that will be used to perform the inspections. [DOE/RW-0333P 10.2.1.A]
- B. Identification of characteristics to be inspected; methods of inspection; acceptance criteria; *process* (see def.) monitoring methods to be employed; and when, during the inspection process, inspections are to be made. [NQA-1-1997, Requirement 10, 401; DOE/RW-0333P 10.2.1.B and 10.2.1.C]
- C. Identification of the functional *qualification* (see def.) level (i.e., Level I, II, or III qualification level) of personnel performing inspections. [DOE/RW-0333P 10.2.1.E]
- D. Identification of acceptance criteria. [DOE/RW-0333P 10.2.1.F]
- E. Identification of sampling requirements. [DOE/RW-0333P 10.2.1.G]
- F. Methods to record inspection results. [DOE/RW-0333P 10.2.1.H]
- G. Selection and identification of the *measuring and test equipment* (see def.) to be used to perform the inspection to ensure that the equipment is calibrated and is of the proper type, range, accuracy, and tolerance to accomplish the intended function. [DOE/RW-0333P 10.2.1.I; NQA-1-1997, Requirement 12, 200]
- H. The final inspection shall be planned to arrive at a conclusion regarding conformance of the item to specified requirements. [DOE/RW-0333P 10.2.1.D]

NOTE: Guidance (see def.) and considerations for the preparation of inspection planning is provided in Appendix B.

4.1.4.2 When statistical sampling is used to verify the acceptability of a group of items, the statistical sampling method shall be based on recognized standard practices. [DOE/RW-0333P 10.2.4; NQA-1-1997, Requirement 10, 402]

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4.1.5 In-Process Inspection and Monitoring

- 4.1.5.1 Inspection of items under construction or otherwise *in-process* (see def.) shall be performed as necessary to verify quality. [NQA-1-1997, Requirement 10, 500 1s; DOE/RW-0333P 10.2.5.A.1s]
- 4.1.5.2 If inspection of processed items is impossible or disadvantageous, indirect control by monitoring of processing methods, equipment, and personnel shall be provided. [NQA-1-1997, Requirement 10, 500 2s; DOE/RW-0333P 10.2.5.A.2s]
- 4.1.5.3 Both inspection and process monitoring shall be provided when control is inadequate without both. [NQA-1-1997, Requirement 10, 500 3s; DOE/RW-0333P 10.2.5.B]

4.1.6 Final Inspections

- 4.1.6.1 Completed items shall be inspected for completeness, markings, calibration, adjustments, protection from damage, or other characteristics as required to verify the quality and conformance to the specific requirements. [NQA-1-1997, Requirement 10, 602; DOE/RW-0333P 10.2.6.A]

Item Acceptance

- 4.1.6.2 The acceptance of an item shall be documented and approved by qualified and authorized personnel. [DOE/RW-0333P 10.2.7.A]
- 4.1.6.3 The inspection status of an item shall be identified according to PRD 5085, 14.1 Inspection, Test, and Operating Status. [DOE/RW-0333P 10.2.7.B]
- 4.1.6.4 Final inspections shall include a records review of the results and resolution of *nonconformances* (see def.) identified by prior inspections. [NQA-1-1997, Requirement 10, 601; DOE/RW-0333P 10.2.6.C]

Modifications, Repairs, or Replacements

- 4.1.6.5 Any modifications, *repairs* (see def.), or replacements of items performed subsequent to final inspection shall require reinspection or retest, as appropriate, to verify acceptability. [NQA-1-1997, Requirement 10, 603; DOE/RW-0333P 10.2.6.D]

Inspection Documentation

- 4.1.6.6 Inspection documentation shall identify [DOE/RW-0333P 10.2.8; NQA-1-1997, Requirement 10, 700 1s]:

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- A. The item inspected. *[DOE/RW-0333P 10.2.8.A; NQA-1-1997, Requirement 10, 700(a)]*
- B. The date of inspection. *[DOE/RW-0333P 10.2.8.B; NQA-1-1997, Requirement 10, 700(b)]*
- C. The name of the inspector, or the inspector's unique identifier, who documented, evaluated, and determined acceptability. *[DOE/RW-0333P 10.2.8.C; NQA-1-1997, Requirement 700(c)]*
- D. The name of the data recorder, as applicable. *[DOE/RW-0333P 10.2.8.D]*
- E. The type of observation or method of inspection. *[DOE/RW-0333P 10.2.8.E; NQA-1-1997, Requirement 10, 700(d)]*
- F. The inspection criteria, sampling plan, or reference documents (including revision levels) used to determine acceptance. *[DOE/RW-0333P 10.2.8.F]*
- G. Results indicating acceptability of characteristics inspected. *[DOE/RW-0333P 10.2.8.G; NQA-1-1997, Requirement 10, 700(e)]*
- H. Reference to information on actions taken in connection with nonconformances. *[NQA-1-1997, Requirement 10, 700(f); DOE/RW-0333P 10.2.8.I]*
- I. The measurement and test equipment used during the inspection, including the identification number and most current calibration date. *[DOE/RW-0333P 10.2.8.H]*

- 4.1.6.7 Documentation not previously examined prior to final inspection shall be examined for adequacy and completeness. *[DOE/RW-0333P 10.2.6.B]*

NOTE: *Guidance and considerations for the review of inspection records and other documentation generated as a result of or directly associated with the inspection activity is provided in Appendix C.*

4.1.7 Qualifications of Inspection and Test Personnel

NOTE: *Requirements in 4.1.7.1, 4.1.7.2 and 4.1.7.8 through 4.1.7.10 apply to all personnel performing inspection and test activities. The requirements in Sections 4.1.7.3 through 4.1.7.7 and 4.1.7.11 through 4.1.7.26 only apply to personnel who perform activities*

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relating to nondestructive examination or inspection/test disciplines that are established and controlled by the Quality Assurance organization. For ease of differentiation, the requirements that apply to all personnel are marked with an asterisk.

- 4.1.7.1 *Personnel performing inspections to verify conformance of an item to specified acceptance criteria or as described in this section and personnel performing tests as described in PRD 5082, 11.1 Test Control, shall be qualified and certified according to the *indoctrination* (see def.), *training* (see def.), education, experience, and physical requirements of this PRD and PRD-5072, 2.2 Personnel Training and Qualification. [DOE/RW-0333P 10.2.9.A.1s and 10.2.2.A; NQA-1-1997, Requirement 2, 400]

NOTE: *See PRD-5082, 11.1 Test Control, Sections 4.1.8.2 and 4.1.8.3 for the qualification requirements of personnel who operate systems/subsystems during testing (see def.) and the qualification requirements for test engineers and others who prepare and direct testing activities.*

- 4.1.7.2 *The initial capabilities of a candidate shall be determined by an evaluation of the candidate's education, experience, training, and either test results or capability demonstration. The evaluation shall be performed to the requirements of the applicable functional level, and education and experience requirements of this document. [NQA-1-1997, Requirement 2, 302 1s; DOE/RW-0333P 10.2.9.B.1s and 10.2.9.B.2s]

Functional Qualification Levels of Inspection and Test Personnel

- 4.1.7.3 Three levels of functional qualification (Levels I, II, and III) shall be used depending on the complexity of the functions involved. [DOE/RW-0333P 10.2.9.D.1s]
- 4.1.7.4 The criteria for each level are not limiting with regard to organizational position or professional status but, rather, are limiting with regard to functional work. [DOE/RW-0333P 10.2.9.D.2s]
- 4.1.7.5 Level I Personnel (see def.) Capabilities—Level I personnel shall be capable of performing and documenting the results of designated inspections or tests. [DOE/RW-0333P 10.2.9.D.1]
- 4.1.7.6 Level II Personnel (see def.) Capabilities—Level II personnel shall have Level I capabilities for the corresponding category or class. Additionally, Level II personnel shall have demonstrated capabilities in [DOE/RW-0333P 10.2.9.D.2.1s and 10.2.9.D.2.2s]:

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- A. Inspection or *test planning* (see def.).
[DOE/RW-0333P 10.2.9.D.2.a]
- B. Advanced preparation, including the preparation and setup of related equipment, as appropriate. [DOE/RW-0333P 10.2.9.D.2.b]
- C. Supervising or monitoring the inspections or tests.
[DOE/RW-0333P 10.2.9.D.2.c]
- D. Supervising and certifying lower-level personnel.
[DOE/RW-0333P 10.2.9.D.2.d]
- E. Evaluating the validity and acceptability of results.
[DOE/RW-0333P 10.2.9.D.2.e]

4.1.7.7 Level III Personnel (see def.) Capabilities—Level III personnel shall have Level II capabilities for the corresponding category or class. In addition, Level III personnel shall also be capable of evaluating the adequacy of specific programs used to train, qualify, and certify the personnel. [DOE/RW-0333P 10.2.9.D.2 3.1s and 10.2.9.D.2.3.2s]

Indoctrination and Training Qualification Requirements

- 4.1.7.8 *Personnel performing or managing *activities affecting quality* (see def.) shall receive indoctrination in their job responsibilities and authority; general criteria, including technical objectives and requirements, applicable codes and standards, regulatory commitments, company procedures, and quality assurance program requirements. [NQA-1-1997, Requirement 2, 201; DOE/RW-0333P 10.2.9.C.1]
- 4.1.7.9 *Indoctrination and training shall be commensurate with scope; complexity; importance of the activities; special nature of the inspections or tests; and the education, experience, and proficiency of the person. [NQA-1-1997, Requirement 2, 200]
- 4.1.7.10 *The need for a formal training program for personnel performing or managing activities affecting quality shall be determined. Training shall be provided if necessary to achieve initial proficiency, maintain proficiency, and adapt to changes in technology, methods, or job responsibilities. [NQA-1-1997, Requirement 2, 202; DOE/RW-0333P 10.2.9.C.2]

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- 4.1.7.11 On-the-job training, with emphasis on hands-on experience gained through actual performance of inspections and test, shall be included in the training program. [DOE/RW-0333P 10.2.9.C.3]
- 4.1.7.12 On-the-job training for *personnel qualification* (see def.) shall be performed under the direct observation and supervision of a qualified person. [DOE/RW-0333P 10.2.9.C.3.a]
- 4.1.7.13 The documented *verification* (see def.) of conformance shall be performed by the qualified person and not by the person being administered on-the-job training. [DOE/RW-0333P 10.2.9.C.3.b]

Education and Experience Qualification Requirements

- 4.1.7.14 The requirements for education and experience shall be considered with recognition that other factors commensurate with the scope, complexity, or special nature of the inspections or tests affect the assurance that a person can competently perform a particular task. Other factors that demonstrate capability in a given job and the basis for their equivalency shall be documented.
[DOE/RW-0333P 10.2.9.E.1s]
- 4.1.7.15 Level I inspection personnel shall meet the following education and experience requirements [DOE/RW-0333P 10.2.9.E.1]:
- A. Two years of related experience in equivalent inspections or tests; or [DOE/RW-0333P 10.2.9.E.1.a]
 - B. High school graduation or general equivalency diploma (GED) and six months of related experience in equivalent inspections or tests; or [DOE/RW-0333P 10.2.9.E.1.b]
 - C. Completion of college level work leading to an associate degree in a related discipline plus one year of related experience in equivalent inspections or tests.
[DOE/RW-0333P 10.2.9.E.1.c]
- 4.1.7.16 Level II inspection personnel shall meet the following education and experience requirements [DOE/RW-0333P 10.2.9.E.2]:
- A. One year of satisfactory performance as a Level I in the corresponding category or class; or
[DOE/RW-0333P 10.2.9.E.2.a]

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- B. High school graduation or GED plus three years of related experience in equivalent inspections or tests; or
[DOE/RW-0333P 10.2.9.E.2.b]
- C. Completion of college-level work leading to an associate degree in a related discipline plus one year of related experience in equivalent inspections or tests; or
[DOE/RW-0333P 10.2.9.E.2.c]
- D. Graduation from a four-year college plus six months of related experience in equivalent inspections or tests.
[DOE/RW-0333P 10.2.9.E.2.d]

4.1.7.17 Level III inspection personnel shall meet the following education and experience requirements [DOE/RW-0333P 10.2.9.E.3]:

- A. Six years of satisfactory performance as a Level II in the corresponding category or class; or
[DOE/RW-0333P 10.2.9.E.3.a]
- B. High school graduation plus ten years of related experience in equivalent inspections or tests; or high school graduation plus eight years of experience in equivalent inspections or tests with at least two years as a Level II and with at least two years associated with nuclear facilities; or, if not, at least sufficient training to be acquainted with the relevant quality assurance program aspects of a nuclear-related facility; or
[DOE/RW-0333P 10.2.9.E.3.b]
- C. Completion of college-level work leading to an associate degree and seven years of related experience in equivalent inspections or tests with at least two years of this experience associated with nuclear facilities; or, if not, at least sufficient training to be acquainted with the relevant quality assurance program aspects of a nuclear-related facility; or
[DOE/RW-0333P 10.2.9.E.3.c]
- D. Graduation from a four-year college plus five years of related experience in equivalent inspections or tests with at least two years of this experience associated with nuclear facilities; or, if not, at least sufficient training to be acquainted with the relevant quality assurance program aspects of a nuclear-related facility. [DOE/RW-0333P 10.2.9.E.3.d]

Physical Qualification Requirements

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- 4.1.7.18 The responsible organization shall identify any special physical characteristics needed in the performance of each activity including the need for initial and subsequent visual acuity and other physical examinations. *[NQA-1-1997, Requirement 2, 400(b) 1s; DOE/RW-0333P 10.2.9.F]*

Certification of Qualifications

- 4.1.7.19 The qualification of inspection and test personnel shall be certified in writing by the responsible organization and document the following information *[NQA-1-1997, Requirement 2, 400(a); DOE/RW-0333P 10.2.9.GJ]*:
- A. Employer's name. *[NQA-1-1997, Requirement 2, 400(a)(1)]*
 - B. Identification of the person being certified. *[NQA-1-1997, Requirement 2, 400(a)(2); DOE/RW-0333P 10.2.9.G.2]*
 - C. Activities, qualified inspection and test categories or class the individual is certified to perform. *[NQA-1-1997, Requirement 2, 400(a)(3); DOE/RW-0333P 10.2.9.G.3]*
 - D. Basis of qualification, such as:
 - 1. education, experience, indoctrination, and training
 - 2. test results, where applicable
 - 3. capability demonstration results.*[NQA-1-1997, Requirement 2, 400(a)(4); DOE/RW-0333P 10.2.9.G.4]*
 - E. Results of periodic evaluations. *[NQA-1-1997, Requirement 2, 400(a)(5); DOE/RW-0333P 10.2.9.G.5]*
 - F. Results of visual acuity and other physical examinations, when required. *[NQA-1-1997, Requirement 2, 400(a)(6); DOE/RW-0333P 10.2.9.G.6]*
 - G. Signature of the employer's designated representative who is responsible for such certification. *[NQA-1-1997, Requirement 2, 400(a)(7); DOE/RW-0333P 10.2.9.G.8]*
 - H. Date of certification or recertification and certification expiration. *[NQA-1-1997, Requirement 2, 400(a)(8); DOE/RW-0333P 10.2.9.G.7]*

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Periodic Evaluation of Inspection and Test Personnel Qualifications

- 4.1.7.20 The job performance of inspection and test personnel shall be reevaluated at periodic intervals not to exceed three years. *[NQA-1-1997, Requirement 2, 302 2s; DOE/RW-0333P 10.2.9.H.1]*
- 4.1.7.21 Reevaluation shall be by evidence of continued satisfactory performance or redetermination of capability in accordance with the requirements of this PRD. If during this evaluation or at any other time, it is determined by the responsible organization that the capabilities of an individual are not in accordance with the qualification requirements specified for the job, that person shall be removed from that activity until such time as the required capability has been demonstrated. *[NQA-1-1997, Requirement 2, 302 3s and 302 4s; DOE/RW-0333P 10.2.9.H.1.a and 10.2.9.H.1.b]*
- 4.1.7.22 Any person who has not performed inspection or testing activities in the qualified area for a period of one year shall be reevaluated. *[NQA-1-1997, Requirement 2, 302 5s; DOE/RW-0333P 10.2.9.H.2]*

Maintaining Qualification Documentation for Inspection and Test Personnel

- 4.1.7.23 Records of qualification, including requalification for inspection and test personnel, shall be established and maintained by the employer and for indoctrination and training. *[NQA-1-1997, Requirement 2, 500 2s]*
- NOTE:** *Records of the implementation for indoctrination and training may take the form of attendance sheets, training logs, or personnel training records).* *[NQA-1-1997, Requirement 2, 500 1s]*
- 4.1.7.24 Inspection and test personnel qualification documentation shall contain the information required for the initial qualification and the maintenance of qualification. *[DOE/RW-0333P 10.2.9.I.1.2s]*
- 4.1.7.25 Documentation for each person shall be maintained and updated according to the following requirements *[DOE/RW-0333P 10.2.9.I.2]:*
- A. Removal of a person from performing in an area of certification when the responsible organization determines that the capabilities of the individual are not in accordance with the qualification requirements specified for the job as described in this section. This shall be documented at the time of removal. *[DOE/RW-0333P 10.2.9.I.2.a]*

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- B. Reinstatement of certifications for the qualified area when the required capability has been demonstrated as described in this section. This shall be documented at the time of reinstatement. *[DOE/RW-0333P 10.2.9.I.2.b]*
- C. Continued performance in each certified area or redetermination of required capability as described in this section for each certified area shall be updated annually. *[DOE/RW-0333P 10.2.9.I.2.c]*
- D. Reevaluation of job performance by evidence of continued satisfactory performance or redetermination of capability as described in this section. This shall be updated every three years. *[DOE/RW-0333P 10.2.9.I.2.d]*

4.1.7.26 Integrity of the examination shall be maintained by the employer or certifying agency through appropriate confidentiality of files and, where applicable, proctoring of examination. Copies of the objective evidence regarding the type(s) and content of the examination(s) shall be required by the employer in accordance with the requirements of PRD-5072, 2.2 Personnel Training and Qualification, Subsection 4.1.4.2. *[NQA-1-1997, Requirement 2, 400(b) 3s]*

4.1.8 Records

4.1.8.1 All records designated in implementing documents as *quality assurance records* (see def.) shall be controlled in accordance with PRD 5088, 17.1 Quality Assurance Records. *[Summary of records requirements from NQA-1-1997, DOE/RW-0333P, and company imposed requirements]*

4.2 Specific Requirements for DOE/RW-0333P QARD Revision 10 Applications

This subsection (4.2) contains additional requirements from the QARD (DOE/RW-0333P Revision 10) which are specific to the Spent Nuclear Fuel Program.

4.2.1 Selecting Inspection Personnel to Perform Inspection

4.2.1.1 The inspections shall be performed by personnel other than those who performed or directly supervised the item being inspected and are independent of the organization directly responsible for that item. *[DOE/RW-0333P 10.2.2.C.1s]*

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- 4.2.1.2 These personnel shall not report directly to the immediate supervisor responsible for the item being examined. [DOE/RW-0333P 10.2.2.C.2s]

4.2.2 In-Process Inspection and Monitoring

- 4.2.2.1 A combination of inspection and process monitoring methods, when used, shall be performed in a systematic manner to ensure that the specified requirements for control of the process and the quality of the item are met throughout the duration of the process. [DOE/RW-0333P 10.2.5.C]
- 4.2.2.2 Controls shall be established and documented for the coordination and sequencing of the work at established inspection points during successive stages of the process. [DOE/RW-0333P 10.2.5.D]

5. DEFINITIONS

Refer to LST-199, Definitions, in the QA PRD Manual for the definitions of the following terms:

acceptance

acceptance criteria

activities affecting quality

characteristics

cognizant quality engineer

data

design output

document

guidance

hold point

indoctrination

in-process

inspection

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inspector

item

Level I Personnel

Level II Personnel

Level III Personnel

line organization

measuring and test equipment

nonconformance

qualification (personnel)

quality assurance record

repair

service

system engineer

test/testing

test plan

training

verify

verification

6. REFERENCES

ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes

ASME/NQA-1-1997, Quality Assurance Requirements for Nuclear Facility Application

DOE/RW-0333P, Office of Civilian Radioactive Waste Management Program, Quality Assurance Requirements and Description, Revision 10

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7. APPENDICES

Appendix A, 10.1 Basis

Appendix B, Inspection Planning Guidance

Appendix C, Inspection Documentation Guidance

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APPENDIX A**10.1 Basis**

Source	Citation	Requirement	Comments
ASME/NQA-1-1997, Quality Assurance Requirements for Nuclear Facility Application, Requirement 10	100 1s	4.1.1.1	Consensus Requirement (CR)
NQA-1-1997, Requirement 2	200	4.1.7.9	CR
NQA-1-1997, Requirement 2	201	4.1.7.8	CR
NQA-1-1997, Requirement 2	202	4.1.7.10	CR
NQA-1-1997, Requirement 2	302 1s	4.1.7.2	CR
NQA-1-1997, Requirement 2	302 2s	4.1.7.20	CR
NQA-1-1997, Requirement 2	302 3s and 302 4s	4.1.7.21	CR
NQA-1-1997, Requirement 2	302 5s	4.1.7.22	CR
NQA-1-1997, Requirement 2	400	4.1.7.1	CR
NQA-1-1997, Requirement 2	400(a)	4.1.7.19	CR
NQA-1-1997, Requirement 2	400(a) (1)	4.1.7.19.A	CR
NQA-1-1997, Requirement 2	400(a)(2)	4.1.7.19.B	CR
NQA-1-1997, Requirement 2	400(a)(3)	4.1.7.19.C	CR
NQA-1-1997, Requirement 2	400(a)(4)	4.1.7.19.D	CR
NQA-1-1997, Requirement 2	400(a)(5)	4.1.7.19.E	CR
NQA-1-1997, Requirement 2	400(a)(6)	4.1.7.19.F	CR
NQA-1-1997, Requirement 2	400(a)(7)	4.1.7.19.G	CR
NQA-1-1997, Requirement 2	400(a)(8)	4.7.7.19.H	CR
NQA-1-1997, Requirement 2	400(b) 1s	4.1.7.18	CR
NQA-1-1997, Requirement 2	400(b) 3s	4.1.7.26	CR
NQA-1-1997, Requirement 2	500 1s	4.1.7.23 Note	CR
NQA-1-1997, Requirement 2	500 2s	4.1.7.23	CR
NQA-1-1997, Requirement 10	100 2s	4.1.1.2	CR
NQA-1-1997, Requirement 10	100 3s	4.1.1.3	CR
NQA-1-1997, Requirement 10	100 4s	4.1.1.4	CR
NQA-1-1997, Requirement 10	200	4.1.2.1	CR
NQA-1-1997, Requirement 10	300 1s	4.1.3.1	CR
NQA-1-1997, Requirement 10	300 2s	4.1.3.2	CR
NQA-1-1997, Requirement 10	401	4.1.4.1.B	CR
NQA-1-1997, Requirement 10	402	4.1.4.2	CR
NQA-1-1997, Requirement 10	500 1s	4.1.5.1	CR
NQA-1-1997, Requirement 10	500 2s	4.1.5.2	CR
NQA-1-1997, Requirement 10	500 3s	4.1.5.3	CR
NQA-1-1997, Requirement 10	601	4.1.6.4	CR

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Source	Citation	Requirement	Comments
NQA-1-1997, Requirement 10	602	4.1.6.1	CR
NQA-1-1997, Requirement 10	603	4.1.6.5	CR
NQA-1-1997, Requirement 10	700 1s	4.1.6.6	CR
NQA-1-1997, Requirement 10	700(a)	4.1.6.6.A	CR
NQA-1-1997, Requirement 10	700(b)	4.1.6.6.B	CR
NQA-1-1997, Requirement 10	700(c)	4.1.6.6.C	CR
NQA-1-1997, Requirement 10	700(d)	4.1.6.6.E	CR
NQA-1-1997, Requirement 10	700(e)	4.1.6.6.G	CR
NQA-1-1997, Requirement 10	700(f)	4.1.6.6.H	CR
NQA-1-1997, Requirement 12	200	4.1.4.1.G	CR
DOE/RW-0333P, Office of Civilian Radioactive Waste Management Program, Quality Assurance Requirements and Description, Revision 10	10.2.1	4.1.4.1	CR
DOE/RW-0333P	10.2.1.A	4.1.4.1.A	CR
DOE/RW-0333P	10.2.1.B and 10.2.1.C	4.1.4.1.B	CR
DOE/RW-0333P	10.2.1.D	4.1.4.1.H	CR
DOE/RW-0333P	10.2.1.E	4.1.4.1.C	CR
DOE/RW-0333P	10.2.1.F	4.1.4.1.D	CR
DOE/RW-0333P	10.2.1.G	4.1.4.1.E	CR
DOE/RW-0333P	10.2.1.H	4.1.4.1.F	CR
DOE/RW-0333P	10.2.1.I	4.1.4.1.G	CR
DOE/RW-0333P	10.2.2.B	4.1.1.4 Note	CR
DOE/RW-0333P	10.2.2.C.1s	4.2.1.1	Specific Requirement (SR)
DOE/RW-0333P	10.2.2.C.2s	4.2.1.2	SR
DOE/RW-0333P	10.2.3.A	4.1.3.1	CR
DOE/RW-0333P	10.2.3.B	4.1.3.2	CR
DOE/RW-0333P	10.2.4	4.1.4.2	CR
DOE/RW-0333P	10.2.5.A.1s	4.1.5.1	CR
DOE/RW-0333P	10.2.5.A.2s	4.1.5.2	CR
DOE/RW-0333P	10.2.5.B	4.1.5.3	CR
DOE/RW-0333P	10.2.5.C	4.2.2.1	SR
DOE/RW-0333P	10.2.5.D	4.2.2.2	SR
DOE/RW-0333P	10.2.6.A	4.1.6.1	CR
DOE/RW-0333P	10.2.6.B	4.1.6.7	CR
DOE/RW-0333P	10.2.6.C	4.1.6.4	CR

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Source	Citation	Requirement	Comments
DOE/RW-0333P	10.2.6.D	4.1.6.5	CR
DOE/RW-0333P	10.2.7.A	4.1.6.2	CR
DOE/RW-0333P	10.2.7.B	4.1.6.3	CR
DOE/RW-0333P	10.2.8	4.1.6.6	CR
DOE/RW-0333P	10.2.8.A	4.1.6.6.A	CR
DOE/RW-0333P	10.2.8.B	4.1.6.6.B	CR
DOE/RW-0333P	10.2.8.C	4.1.6.6.C	CR
DOE/RW-0333P	10.2.8.D	4.1.6.6.D	CR
DOE/RW-0333P	10.2.8.E	4.1.6.6.E	CR
DOE/RW-0333P	10.2.8.F	4.1.6.6.F	CR
DOE/RW-0333P	10.2.8.G	4.1.6.6.G	CR
DOE/RW-0333P	10.2.8.H	4.1.6.6.I	CR
DOE/RW-0333P	10.2.8.I	4.1.6.6.H	CR
DOE/RW-0333P	10.2.9.A.1s and 10.2.2.A	4.1.7.1	CR
DOE/RW-0333P	10.2.9.B.1s and 10.2.9.B.2s	4.1.7.2	CR
DOE/RW-0333P	10.2.9.C.1	4.1.7.8	CR
DOE/RW-0333P	10.2.9.C.2	4.1.7.10	CR
DOE/RW-0333P	10.2.9.C.3	4.1.7.11	CR
DOE/RW-0333P	10.2.9.C.3.a	4.1.7.12	CR
DOE/RW-0333P	10.2.9.C.3.b	4.1.7.13	CR
DOE/RW-0333P	10.2.9.D.1	4.1.7.5	CR
DOE/RW-0333P	10.2.9.D.1s	4.1.7.3	CR
DOE/RW-0333P	10.2.9.D.2s	4.1.7.4	CR
DOE/RW-0333P	10.2.9.D.2.1s and 10.2.9.D.2.2s	4.1.7.6	CR
DOE/RW-0333P	10.2.9.D.2.a	4.1.7.6.A	CR
DOE/RW-0333P	10.2.9.D.2.b	4.1.7.6.B	CR
DOE/RW-0333P	10.2.9.D.2.c	4.1.7.6.C	CR
DOE/RW-0333P	10.2.9.D.2.d	4.1.7.6.D	CR
DOE/RW-0333P	10.2.9.D.2.e	4.1.7.6.E	CR
DOE/RW-0333P	10.2.9.D.2.3.1s and 10.2.9.D.2.3.2s	4.1.7.7	CR
DOE/RW-0333P	10.2.9.E.1	4.1.7.15	CR
DOE/RW-0333P	10.2.9.E.1.a	4.1.7.15.A	CR

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Source	Citation	Requirement	Comments
DOE/RW-0333P	10.2.9.E.1.b	4.1.7.15.B	CR
DOE/RW-0333P	10.2.9.E.1.c	4.1.7.15.C	CR
DOE/RW-0333P	10.2.9.E.1s	4.1.7.14	CR
DOE/RW-0333P	10.2.9.E.2	4.1.7.16	CR
DOE/RW-0333P	10.2.9.E.2.a	4.1.7.16.A	CR
DOE/RW-0333P	10.2.9.E.2.b	4.1.7.16.B	CR
DOE/RW-0333P	10.2.9.E.2.c	4.1.7.16.C	CR
DOE/RW-0333P	10.2.9.E.2.d	4.1.7.16.D	CR
DOE/RW-0333P	10.2.9.E.3	4.1.7.17	CR
DOE/RW-0333P	10.2.9.E.3.a	4.1.7.17.A	CR
DOE/RW-0333P	10.2.9.E.3.b	4.1.7.17.A	CR
DOE/RW-0333P	10.2.9.E.3.c	4.1.7.17.C	CR
DOE/RW-0333P	10.2.9.E.3.d	4.1.7.17.D	CR
DOE/RW-0333P	10.2.9.F	4.1.7.18	CR
DOE/RW-0333P	10.2.9.G	4.1.7.19	CR
DOE/RW-0333P	10.2.9.G.2	4.1.7.19.B	CR
DOE/RW-0333P	10.2.9.G.3	4.1.7.19.C	CR
DOE/RW-0333P	10.2.9.G.4	4.1.7.19.D	CR
DOE/RW-0333P	10.2.9.G.5	4.1.7.19.E	CR
DOE/RW-0333P	10.2.9.G.6	4.1.7.19.F	CR
DOE/RW-0333P	10.2.9.G.7	4.7.7.19.H	CR
DOE/RW-0333P	10.2.9.G.8	4.1.7.19.G	CR
DOE/RW-0333P	10.2.9.H.1	4.1.7.20	CR
DOE/RW-0333P	10.2.9.H.1.a and 10.2.9.H.1.b	4.1.7.21	CR
DOE/RW-0333P	10.2.9.H.2	4.1.7.22	CR
DOE/RW-0333P	10.2.9.I.1.2s	4.1.7.24	CR
DOE/RW-0333P	10.2.9.I.2	4.1.7.25	CR
DOE/RW-0333P	10.2.9.I.2.a	4.1.7.25.A	CR
DOE/RW-0333P	10.2.9.I.2.b	4.1.7.25.B	CR
DOE/RW-0333P	10.2.9.I.2.c	4.1.7.25.C	CR
DOE/RW-0333P	10.2.9.I.2.d	4.1.7.25.D	CR
PRD-5088, 17.1 Quality Assurance Records	All	4.1.8.1	Summary of records requirements from NQA-1-1997, DOE/RW-0333P, and Company Imposed Requirements

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APPENDIX B

Inspection Planning Guidance

The basis for the assignment, level, and intensity of inspection applied to processes, activities, and items are driven by *design output* (see def.) documents. The basis should be commensurate with the importance of a process, activity, or item's function to human health, safety, nuclear safety, effect on the environment, reliability, maintainability, and operability. Factors that should be addressed in establishing inspection activities are:

- The consequence of malfunction or failure
- The design and fabrication complexity or uniqueness
- The need for special controls and surveillance over processes and equipment, including in-service inspection (ISI) of specified structures, systems, and components and related activities
- The degree to which functional compliance can be demonstrated by inspection or test
- The history of an item indicating it is subject to being supplied as a suspect/counterfeit item
- The quality history and degree of standardization
- The difficulty of correction, repair, or replacement
- The requirements of applicable instructions, procedures, drawings, specifications, codes and standards.

The type of inspection (in-process, final, in-service, etc.) to be performed should be determined and identified in the appropriate document during the inspection planning process.

Inspection personnel should be provided with adequate information, direction, and criteria for performing inspection activities as required to verify quality and conformance to specified requirements. As a minimum this should include:

- Measurable and verifiable acceptance criteria including tolerances
- Identification of the organization performing the work or otherwise responsible for the process, activity, or item
- Identification of the organization responsible for performing the inspection.

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When applicable, the following should also be incorporated into inspection plans:

- Special requirements such as environmental conditions, prerequisite safety inspections, notification to (or confirmation of the availability of) other organizations, simulation of normal or abnormal operating conditions, equipment lockout, and personnel to contact for access
- Reference to associated documents
- Selection and identification of the measuring and test equipment or installed process instrumentation
- Set-up and operation of test equipment
- Equipment necessary to support the inspection (such as ladders, scaffolding, water supply, compressed air, cleaning equipment, and safety equipment)
- Inspection tools required such as mirrors, flashlights, levels, rulers, etc.
- Material preparation requirements such as the removal of insulation for a leak test
- Instructions for performing any required calculations (for example, torque wrench settings using extensions and/or multipliers)
- Specific instruction for process monitoring or sampling activities.

When sampling inspection is used, alternate sampling inspection criteria may be developed and implemented in cases where the use of recognized industry statistical sampling standards is not practical or possible. The design organization should provide technical justification for the alternate criteria when so specified. The sampling criteria used (industry standard or alternate) should be documented.

QA should:

- Ensure that inspection personnel are provided adequate inspection information, direction, and criteria in documentation provided by other organizations (such as work packages) that will be readily available during inspection activities, or
- Provide the information, direction, and criteria in inspection documents such as inspection checklists or inspection procedures.

Inspection checklists and reports may be combined, stand-alone, or incorporated with other documents that specify inspection.

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ISI program documents should be prepared by the design organization. ISI inspections should include evaluating the performance capability of essential emergency and safety systems equipment, verification of the calibration (and integrity of instruments, and verification of maintenance. ISI inspections should be planned by the organization performing the inspection and approved by the design organization and QA.

ISI inspections should be performed by an organization designated by the design organization and having the requisite qualification/certification. ISI inspection results should be reviewed and approved by QA.

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APPENDIX C

Inspection Documentation Guidance

Inspection records and other documentation generated as a result of or directly associated with the inspection activity should, as a minimum, be reviewed for the following:

- All documents are complete and accurate and appropriately signed off
- The required inspections were performed and completed in accordance with inspection planning documents
- Inspection results, including the accept/reject status, were recorded for each inspection requirement/attribute
- Processes, activities, and items were found to be in compliance with specified requirements including those that were initially rejected and required resolution
- Nonconformances, including those discovered during final review and acceptance, were properly recorded and have been resolved
- Inspection activities were performed by individuals with the appropriate qualifications.

If process monitoring was required in conjunction with the inspection activity, the documentation should be reviewed to ensure performance and completion of the activity, that required items and activities were observed and evaluated, and that any discovered nonconformances were properly recorded and have been resolved.

Discrepancies discovered during the review process should be resolved prior to final acceptance.

The final review should affirm conformance of an item and/or activity to specified requirements prior to final acceptance of inspection activities. Final acceptance will be documented by completing the final review/approval block on the inspection-reporting document.